TOMORROW'S TRANSPORTATION FOR TOMORROW'S CITIES*

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The personal vehicle--the automobile--has become very populat.

But there are certain problems with it, and all of us are quite aware of those problems and frequently reminded of their severity.

(1) Our autos have a large volume of enclosed space per passenger hence produce needless demands for paved surface and space for movement and maneuverability.

(2) There is a relatively high probability of operating accidents compared with other forms of ground transportation.

(3) Air pollution from the engine exhaust is a nuisance, sometimes a public health hazard, and possibly a threat to long-term climatic stability.

(4) Aggregate consumption of fossil fuel is so voracious that it spells exhaustion of oil supplies available to us and perhaps to the world in the forseeable future.

(5) The auto seems to encourage people in large numbers to go to remote places and desecrate the environment with permanent homes, seasonal homes, motor boats, and litter.

(6) The auto generally pays taxes only to build facilities for itself. Yet it also uses facilities which are paid for by other taxes.

(7) So many people can own one that public transit for the non-owner tends to become defunct, thus leaving him stranded.

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One solution to these problems is portrayed and implied in literature that comes across my desk--and yours--frequently.

The front cover of one of these documents displays a full-page color picture of the heart of the Monumental City of the coming new era of mass transit. There are wide, graceful parkways under sunny skies. At their borders rise graceful space-age versions of the Woolworth Building, the New York Public Library, and Shea Stadium. There are wide boulevards containing a total of ten automobiles in the ten blocks that stretch into the background. Wide, clean, sparkling sidewalks also reach into the distance, and I can count 24 pedestrians and one dog, on a leash, in the ten-block stretch. Long, sleek trains or similar devices are gliding in and out of a glistening station, and 12 autos are parked inobtrusively beside the station. Three people are standing on the platform of the station. Yet this landscape is surrounded by about eight million square feet of skyscraper floor space--office space for 80,000 people or residential space for 20,000 to 40,000, depending on their income and upon how we think they will live.

And the landscape contains 27 people, 22 automobiles, one dog on a leash, no waste receptacle, and no litter. All problems have been solved--even the population problem.

How does this handful of extremely urbane people pay for this spectacular setting? By formula, as explained on page three of the brochure: 67% federal grant, 25% state bond issue, 8% local contribution.

The landscape, and perhaps even the implementation, are to me uncomfortably reminiscent of the Monumental City plans of the early 1900s.

That is one approach to the problems of the personal vehicle in the city. Another approach is to look at the specific problems and attack them individually each on its own terms.

The large volume of vehicle per passenger could be, and is being, attacked by reducing the size of vehicle and by barring entry to areas so densely built that they cannot accommodate autos of any description for parking or easy circulation.

Among many steps to reduce accident probability, provide automated guidance in areas of high traffic density. To approach the air pollution and fuel exhaustion problems change the power plant. To approach the environmental desecration problem, use the zoning, easement, and fee purchase tools at our disposal now.

To get at the tax problem, require the auto's users to pay all costs. Start by placing all road and street costs on the gasoline tax. To salvage mobility for the non-owner and non-driver, require vehicle taxes also to subsidize public transportation service--ideally taxi, I would think--for those who cannot own a car or cannot drive.

The important point here is that each major problem seems to have a counterpart direct approach which can be implemented and which can move us to a solution if anything can.

Each of these measures is perfectly compatible with the erection of a Monumental City--or any other kind of city.

Meanwhile, there is no assurance that erection of a monumental city along early 20th century lines will eliminate the demand for the personal vehicle--will take it out of the competitive picture.

What is more likely perhaps is elimination of the need for the monumental city itself, with increased effectiveness of audio-visual communication and small, automated industrial plants. This has been elaborated by the remarkable H.G. Wells long ago and recently revived and reviewed by Brian Berry in his paper on "The Geography of the United States in the Year 2000".

What appeals to me about this conference is that it is trying to look forward to a new means of transportation which can help us to move forward to new kinds of cities. I doubt that for the year 2000 we must build the most modern 1920s cities the world has ever seen.

But where is the opening wedge? Where does a new kind of transportation break into the urban system?

I listed earlier a series of direct approaches to auto problems which seem to me not only feasible but likely. Each step still leaves us with the personal vehicle, even though the specific problem is solved--with one exception. The exception is in those places where the personal vehicle is barred because the place is so densely built up that it cannot accommodate personal vehicles for parking or for circulation without guideways.

Most of the 25 or so largest U.S. metropolitan areas have one such district or more. These include the Central Business District plus, in many cases, major hospital and health care complexes and major university complexes, each with its neighboring concentration of high-density housing.

These are the places where the auto or personal vehicle is most vulnerable to competition--where densities and designs have historically called for a pedestrian circulation system but the districts have grown too big and extensive to be integrated by a pedestrian system, and too congested for the auto.

For these areas we are talking about "people movers". In these areas it seems highly probable that an efficient "people mover" linked to a system of peripheral parking facilities could run the automobile out of business in the economic market place.

The question is, where would the peripheral parking facilities be located?

Initially they might be concentrated at the edge of the critical district (downtown or other complex). As time passes, the "people mover" system might well become competitive with the personal vehicle along the most congested route leading from the downtown or other critical district. The "periphery" for peripheral parking would shift or expand outward along the most congested routes. The "people mover" system would expand its service area as its ridership and competitive position expanded. It would start relatively small, with a unique concept of service, in the area with the highest probability of functional and economic success. It would expand its reach in response to demand, with minimal need for transfers from one vehicle to another.

This model is largely consistent with the pattern of diffusion of transportation innovations we have experienced before. It allows for flexibility in long-term financing and planning. And it reduces the chances of very large-scale mistakes.

The model has one key requirement. The "people mover" must be technologically capable of being not only a downtown people mover but also metropolitan-wide mass transit system, if and when the need arises.

It seems to me that many of the ideas being presented at this conference have that capability potentially, and that is why I am pleased that you are here.

We need to consider these ideas and to simulate the growth and development of our metropolitan areas under the kind of transportation evolution I have just suggested. There are many modifications of this idea floating around, including the adaptation of today's bus and taxi technology.

The solutions which move us toward the real city of tomorrow will be phased from where we are today into some new concept of service and some new technology. You are helping to find good answers by helping to ask good questions.